



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/056,845

01/22/2002

Jeffrey D. Jordan

LAR 16307-1-SB

6048

23351 7590 03/13/2007

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
LANGLEY RESEARCH CENTER
MAIL STOP 141
HAMPTON, VA 23681-2199

EXAMINER

NGUYEN, CAM N

ART UNIT

PAPER NUMBER

1754

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
--	-----------	---------------

3 MONTHS

03/13/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/056,845

Applicant(s)

JORDAN ET AL.

Examiner

Cam N. Nguyen

Art Unit

1754

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12/13/06 (an amendment and a T.D.).
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,5-11 and 17-25 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1, 3, 5-11, & 17-25 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Applicants' amendments and remarks, filed on 12/13/06, have been made of record and entered. Claims 1 & 17 have been amended. Claims 2, 4, & 12-16 have been canceled.

Claims 1, 3, 5-11, & 17-25 are currently pending.

Terminal Disclaimer

2. The terminal disclaimer filed on 12/13/06 disclaiming the terminal portion of any patent granted on this application, which would extend beyond the expiration date of Copending Application No. 10/314,660 has been reviewed and are accepted. The terminal disclaimer has been recorded.

Claim Rejections - 35 USC § 102(b)

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 3, 5-11, & 17-25 are rejected under 35 U.S.C. 102(b) as being anticipated by Maier (US Pat. 6,121,187).

Maier discloses an amorphous mixed oxides, wherein at least 50% of said mixed oxides consists of one or a mixture of oxides of titanium, silicon, alumina or zirconium, and up to 50%

Art Unit: 1754

by weight of consists of one or more metal oxides selected from a group of elements including Sn, Hf, La, Ce, etc. and the claimed promoters, i.e., Fe, Co, Ni (see col. 14, claims 1 & 3). The mixed oxides additionally contains up to 5% by weight of at least one of the elements Pt, Rh, Ir, Os, Ru, Re, Ag, Au, Cu, Ni, Pd, Co in highly dispersed form in a metallic or non-metallic state (see col. 14, claim 4).

Regarding claims 1, 3, 5-6, 17-20, the disclosed noble metal and the first, second, and third metal oxides concentrations are falling within the claimed ranges (see above), thus the claims are met.

With respect to the claimed first, second, and third metal oxide mass ratio, it is inherent that the mass ratio of these metal oxides would be the same as being claimed in view of the same metal concentrations of these metal oxides disclosed above.

Regarding claims 7-11 & 21-25, the claims are met by the teaching of the reference in view of the teaching that the disclosed catalyst is suitable for used in various reactions including the claimed reactions (see Maier at col. 5, ln 41-67).

There is no patentable distinction seen between the claimed catalyst and that disclosed by Maier. Thus, the claims are anticipated by the reference.

Response to Applicants' Arguments

7. Applicants' response filed on December 13, 2006 has been fully considered, but not deemed persuasive for the following reasons.

First, applicants urged, that the "Maier reference does not teach a mixed-metal oxide layer comprising tin-oxide, zirconium oxide and a third metal oxide selected from the group

Art Unit: 1754

consisting of cerium oxide, hafnium oxide, lanthanum oxide, and ruthenium oxide, wherein the first metal oxide, second metal oxide, and third metal oxide have a mass ratio of about 1.0:0.5:0.5" (applicants' response on page 10, middle paragraph). This is not found persuasive because Maier teaches the claimed mixed metal oxides among the various metals listed to be suitable (see col. 14, claims 1-3 of the reference). The mixed oxide consists of one or a mixture of oxides of titanium, silicon, aluminum or zirconium in the amount of at least 50% and up to 50% by weight consists of one or more metal oxides selected from a group of elements including tin (Sn) and Hf, La, Ce, Ru, etc. being claimed (see col. 14, claims 3 of the reference). It is inherent that the mass ratios of the chosen metals would inherently embrace the claimed range in view of the above teaching.

In response to applicants' arguments regarding picking and chosen elements from a list of various elements and possibilities, it is considered the elements listed in the Maier reference are not a large group of elements. In view of *In re Schaumann*, one of ordinary skill in the art at the time the invention was made would have been at once envisaged the combination of the claimed elements as their desired catalyst composition because the disclosed group of elements are considerably small.

Conclusion

8. Claims 1, 3, 5-11, & 17-25 are pending. Claims 1, 3, 5-11, & 17-25 are rejected. No claims are allowed.

Art Unit: 1754

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Contacts

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Primary Examiner Cam N Nguyen, whose telephone number is 571-272-1357. The examiner can normally be reached on M-F, 9:00 AM - 6:30 PM, at alternative work site.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman, can be reached on 571-272-1358. The fax phone number for the organization where this application or proceeding is assigned is 571-272-8300.

Art Unit: 1754

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Cam N. Nguyen/

Nguyen/cnn

Primary Examiner

March 08, 2007

Art Unit: 1754